in the tax base can reasonably be attributed to the different behavioral effects in different income groups.

Choice of Base Year. This study uses 1980 as the base year because it is the last full year not affected by any of the changes in ERTA. Some of the other studies used 1979 or 1981 as base years.

Even with the improved methods used here, major uncertainties about the baseline and data interpretation remain. As noted above, the most important uncertainty is the level of aggregate economic growth that would have occurred if tax policy had not changed. The problem of interpreting the meaning of changes in the income distribution if people are switching between income groups over time also remains. As in the case of other studies, the results of this study should be interpreted with some caution.

ORGANIZATION OF THE STUDY

Chapter II compares actual taxes paid by income group in 1980 and 1983. A method for disaggregating changes in tax payments into major components is outlined and the contributions of different items to changes in the distribution of tax payments are shown. The chapter also reports changes by income group in the distribution of after-tax EAGI and in the real level of after-tax income.

Chapter III examines the static effects of ERTA on the distribution of individual tax payments. The chapter estimates how taxes paid in 1983, on 1983 incomes, would have differed if 1980 law, indexed for the overall growth of per capita income between 1980 and 1983, had been in effect. It shows the separate effects on the distribution of tax payments of bracket creep, statutory tax rate changes, and legislated changes in the individual tax base.

Chapter IV combines the Chapter II and Chapter III findings, along with data on changes in marginal tax rates by income group, to assess the extent to which behavioral responses to lower tax rates may have resulted in positive revenue feedbacks and in changes in the distribution of tax payments. First, changes in taxes paid by income groups are estimated, compared to a baseline in which incomes grow, but the income distribution and tax rates remain fixed. Then, the change in taxes paid is partitioned into "static" and "behavioral and other" effects. The final sections of Chapter IV examine the possible behavioral responses that are identified in more detail. Particular attention is paid to increases in both the realization of capital gains and in total wage and salary income for taxpayers in the top 1 percent of the income distribution.

CHAPTER II

ACTUAL CHANGES IN THE DISTRIBUTION OF TAXES

AND INCOME, 1980-1983

This chapter compares data from 1980 and 1983 to see how the distribution of income and tax payments actually changed over that time period, both because of tax policy changes and as a result of all other factors--such as changes in the distribution of pretax income and changes in the use of tax benefits available in both years. Chapters that follow provide estimates of how much of the change in the distribution of tax payments could be attributed to direct or static effects of tax law changes, how much to the overall growth in nominal income, and how much to changes in the distribution of income, the use of deductions, and realizations of capital gains.

The data in this chapter indicate that both the top percentile of returns and the bottom half of returns paid a greater share of total income taxes in 1983 than in 1980, but that other groups paid somewhat smaller shares. While all income groups paid more taxes in 1983 than in 1980, tax payments increased relatively more for the top and bottom income groups, especially for the top percentile of returns. Taxes paid by the top percentile of returns increased proportionately more than taxes paid by other groups because the top group experienced a much larger growth in before-tax expanded adjusted gross income (EAGI). Most of the higher growth rate of EAGI in the top percentile can be explained by the growth of capital gains income.

Although the share of tax payments of the top percentile increased, overall statistical measures show a slight decline in the progressivity of the tax system between 1980 and 1983. This occurred because, except for the top percentile, tax payments generally increased at a greater rate for lower income groups than for higher income groups. Because of shifts in the distribution of pretax income toward the top income groups, there was greater inequality in the distribution of after-tax income in 1983 than in 1980. In particular, even though the share of tax payments of the top percentile increased between 1980 and 1983, this group received a higher share of after-tax income. Over the 1980-1983 period, the lower income groups became worse off in absolute, as well as

relative, terms. On average, the top half of returns received more real after-tax income per capita in 1983 than in 1980, while the bottom half of returns received less real after-tax income per capita.

The next section of this chapter reports data on changes in the distribution of income tax payments by EAGI percentile group between 1980 and 1983, and shows the relative contribution of changes in tax rates and income levels to this change in tax payments. There follows a more detailed discussion of the relative changes in different components of income. These data suggest what types of behavioral responses may have contributed to the higher tax share paid by the top percentile of returns. (Potential behavioral responses are examined in more detail in Chapter IV.) The final sections of this chapter examine in more detail changes in the distribution of taxes paid and EAGI between 1980 and 1983, as well as changes in real before-tax and after-tax EAGI per return.

Throughout this chapter, particular attention is paid to the returns in the top percentile of the income distribution. The top group experienced the largest reduction in marginal tax rates and the largest growth in income over the 1980-1983 period--a growth that many analysts have attributed to behavioral responses to the ERTA tax cuts.

THE DISTRIBUTION OF INCOME TAX PAYMENTS

Table II.1 shows that the share of total income taxes paid by the top percentile of returns increased from 19.1 percent in 1980 to 20.6 percent in 1983. The shift in the distribution of taxes paid was uneven across the other income groups. Groups 2, 3, and 4, which include other taxpayers in the top half of the income distribution, each paid a lower share of taxes in 1983 than in 1980, while the tax share of the bottom group (Group 5) increased. Thus, one cannot say generally that higher income groups paid a larger share of taxes in 1983 than in 1980, only that the very top group paid more.

TABLE II.1.   DISTRIBUTION OF INCOME TAXES: 1980-1983
             (In percent)

	Total	Expanded Adjusted Gross Income				
		Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
1980	100.0	19.1	17.8	36.3	19.9	6.9
1981	100.0	17.4	17.4	37.1	20.3	7.7
1982	100.0	19.2	17.2	36.3	20.1	7.1
1983	100.0	20.6	17.1	35.6	19.6	7.0

Changes in tax shares can also be examined by observing comparative rates of growth of income tax payments among income groups. If the percentage growth in tax payments for any income group is higher or lower than the average for all groups, the share of taxes of that group will correspondingly rise or fall.

The top line of Table II.2 shows the percentage growth in tax payments for each EAGI group. Total individual income taxes paid increased 9.5 percent between 1980 and 1983. Taxes paid by returns in the top percentile increased by 18.5 percent, almost double the average increase. The next largest increase was 10.6 percent for Group 5, the lowest EAGI group.

TABLE II.2. OVERVIEW: PERCENTAGE GROWTH IN INCOME
TAXES: 1980-1983 (In percent)

Percentage Growth In:	Total	Expanded Adjusted Gross Income				
		Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
Income Taxes	9.5	18.5	5.3	7.6	7.9	10.6
Taxes/EAGI	-10.0	-16.8	-16.2	-13.9	-11.5	-7.9
EAGI	24.5	42.4	25.7	24.9	21.9	20.2
Cross- Product a/	-3.0	-7.1	-4.2	-3.4	-2.5	-1.6

a. Cross-Product = [% Growth in (Taxes/EAGI)]*[% Growth in EAGI].

Components of Growth in Tax Payments

Total income taxes paid can be calculated by multiplying the tax rate by the level of income. If expanded adjusted gross income (EAGI) is used as the measure of income, then taxes paid can be expressed as:

(2.1)   Taxes = (Taxes/EAGI)*EAGI

where (Taxes/EAGI) is the ratio of taxes to EAGI. This is a measure of the effective tax rate that takes account of both statutory rates and the role of exemptions, deductions, and exclusions in reducing the fraction of total income that is taxed.

The percentage change in taxes between two periods can be expressed as the sum of the percentage changes in tax rates and income. (See Appendix C.)

(2.2) $\% \triangle \text{TAX} = \% \triangle (\text{TAX}/\text{EAGI}) + \% \triangle (\text{EAGI}) +$
$[\%\triangle(\text{TAX}/\text{EAGI})*\%\triangle\text{EAGI})]$

where $\%$ = percentage change and TAX = income taxes paid.

Table II.2 above shows the percentage changes in taxes paid, in the ratio of taxes to EAGI, and in EAGI for the five EAGI groups between 1980 and 1983. This gives an overall view of what happened over that time interval. The percentage growth rate in EAGI was highest for the top income group-- 42.4 percent, compared to 24.5 percent for all groups--and successively lower for all other income groups. The percentage decrease in the ratio of taxes to EAGI was also the largest for the top income group and successively smaller for other groups. That is, the groups that experienced larger tax rate reductions also experienced a larger growth rate in pretax income. For the top percentile, but not for other groups in the top half of the distribution, this relatively greater growth in income was large enough to increase their tax payments by a larger percentage than the increase for the entire population.

Total taxes paid can be further disaggregated by expressing them as the product of four factors: the ratio of taxes to taxable income (a measure of the average statutory tax rate); the ratio of taxable income to AGI (a measure that declines as personal exemptions and itemized deductions become relatively more important); the ratio of AGI to EAGI (a measure that declines as exclusions and deductions from gross income become relatively more important); and EAGI itself. This identity is expressed in equation (2.3) below:

(2.3) Tax = $(\text{TAX}/\text{TY})*(\text{TY}/\text{AGI})*(\text{AGI}/\text{EAGI})*\text{EAGI}$
     where TY = taxable income

Then, equation (2.4) below shows that we can approximate the percentage growth of tax payments as the sum of the growth rates of the four factors. In this way, we can identify in more detail the major sources of growth in tax payments for each income group. (Note again that the sum of the growth rates of the factors will not precisely equal the total growth in taxes paid because of cross-product terms, as shown above in equation (2.2) and explained in more detail in Appendix C.)

(2.4) $\%\triangle\text{TAX} = \%\triangle (\text{TAX}/\text{TY}) + \%\triangle(\text{TY}/\text{AGI}) + \%\triangle(\text{AGI}/\text{EAGI}) +$
$\% \triangle \text{EAGI} + \text{Residual}$

where $\%$ = percentage change, TAX = taxes paid, TY = taxable income, and Residual = effect of cross-product terms.

Table II.3 shows the percentage growth of total taxes and of each of the four factors in Equation (2.4). The growth in EAGI significantly outweighed the reduction in the ratio of taxes to taxable income, and a smaller reduction in the ratio of AGI/EAGI, resulting in a growth in taxes paid for all groups and especially for the top percentile. Changes in the ratio of taxable income to AGI, however, had a relatively insignificant effect on changes in total taxes paid over the period.

TABLE II.3.   PERCENTAGE GROWTH OF INCOME TAXES: 1980-1983
(In percent)

	Total	Expanded Adjusted Gross Income Group				
		Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
Income Taxes	9.5	18.5	5.3	7.6	7.9	10.6
Tax/Taxable Income	-9.3	-9.1	-9.8	-9.8	-10.6	-9.2
Taxable Income/ AGI	0.3	-1.7	-3.0	-1.1	1.0	2.3
AGI/EAGI	-3.3	-6.9	-4.2	-3.4	-1.9	-0.8
EAGI	24.5	42.4	25.7	24.9	21.9	20.2

Note: Component growth does not sum to growth of total income tax payments because of cross-product terms. See Appendix C for further explanation.

Growth in EAGI

As shown in Table II.3, the top percentile experienced a much larger growth in EAGI between 1980 and 1983 (42.4 percent) than did taxpayers as a whole (24.5 percent). This relatively large growth in EAGI is the reason the tax share of the highest income group increased.

EAGI can be expressed as the sum of all income items included in AGI plus excluded items of income. The excluded items of income that were "added back" to AGI to derive the measure of EAGI used in this report are excluded dividends and excluded capital gains. Thus, EAGI can be expressed as:

(2.5)   EAGI = wages + interest + dividends + capital gains - capital

losses + net business income + other income

The percentage growth in EAGI can then be expressed (Equation (2.6)) as the sum of the weighted percentage growth rates of the income items that add up to EAGI, with the weights being each income item's share in EAGI. The contribution of each income item to EAGI growth between 1980 and 1983, that is, the weighted growth rate, depends on both the item's growth rate and on the fraction of EAGI that the item represented in 1980.

(2.6) $\% \Delta$ EAGI = ($\% \Delta$ wages * (wages/EAGI)) +

    ($\% \Delta$ interest * (interest/EAGI)) +

    ($\% \Delta$ dividends * (dividends/EAGI)) +

    ..... [1]

Table II.4 shows the growth rates of EAGI and the weighted growth rates of the components of EAGI for all the income groups between 1980 and 1983. Most of the growth of EAGI for the entire taxpaying population came from the growth in wages and salaries. This occurred because wages and salaries represent the largest income items in all groups. The growth in wages and salaries, however, contributed slightly less to EAGI growth in the top group (15.3 percentage points) than for taxpayers as a whole (17.7 percentage points). For the top group, growth in capital gains contributed 22.4 percentage points, or slightly over half of the 42.4 percent growth in EAGI. In contrast, for the entire population, capital gains contributed only 2.9 percentage points to the 24.5 percent overall growth in EAGI. This means that capital gains contributed over 100 percent (19.5 percentage points) of the differential growth in EAGI (17.9 percentage points) between the top income group and the entire population.[2]

Capital gains contributed more to the growth of EAGI in the top group partly because capital gains increased by a greater percentage in the top group than for the entire population, but mainly because capital gains represent a larger fraction of EAGI for the top group. Because 1980 and 1983, capital gains increased by 89.0 percent in the top group, compared to an overall growth

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1.   See Appendix C for a derivation of this equation.

2.   Because 60 percent of long-term capital gains are excluded from AGI, capital gains contributed less to the growth of AGI and of taxable income than it did to the growth of the more comprehensive income measure, EAGI. Still, the growth in capital gains in AGI contributed 10.9 percentage points to the growth in AGI for the top group, compared to a contribution of 1.3 percentage points for the entire population. This 9.6 percentage-point difference accounted for almost 80 percent of the 12.3 percentage-point difference between the growth rate of AGI for the top group and the growth rate of AGI for the entire population.

TABLE II.4. WEIGHTED GROWTH OF COMPONENTS OF POSITIVE
EAGI: 1980-1983 (In percent)

| | | Expanded Adjusted Gross Income Group | | | | |
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
EAGI a/	24.5	42.4	25.7	24.9	21.9	20.2
Wages and Salaries	17.7	15.3	21.9	20.3	15.0	12.8
Interest	3.1	3.1	1.9	2.3	3.1	5.1
Dividends	0.6	1.3	0.5	0.5	0.6	0.5
Capital Gains	2.9	22.4	2.3	0.5	0.4	0.5
Capital Losses	*	*	*	*	*	0.1
Net Business Income b/	-0.8	-2.4	-1.5	-0.1	0.2	0.4
Other Income c/	1.2	3.0	0.9	1.6	2.7	1.1

* Less than 0.05 percent.

a. Certain expenses, such as above-the-line employee business expenses, are subtracted from income to compute EAGI. As a result, the percentage change in EAGI is not exactly equal to the weighted sum of percentage changes in the income items.

b. Net business income is defined here as unincorporated business profits minus business losses, plus farm profits minus farm losses, plus partnership profits minus partnership losses.

c. Includes state tax refunds, alimony received, taxable pensions and annuities, rents, royalties, farm rental income, taxable unemployment compensation, and miscellaneous other income.

of 65.3 percent. In 1980, capital gains were 25.1 percent of EAGI for the top group, compared to only 4.5 percent for all taxpayers.

Other income items that contributed to the greater relative growth in income for the top group were dividends (1.3 percentage points, compared to the average of 0.6 percentage points) and other income (3.0 percentage points, compared to the average of 1.2 percentage points). On the other hand, a decline in net business income (including net operating income from proprietorships, partnerships, and farms) lowered EAGI growth by 2.4 percentage points for the top group, compared to 0.8 percentage points for the entire population. The decline in net business income may reflect individual taxpayers' use of accelerated

depreciation provisions enacted in the 1981 act rather than any actual decline in the profitability of unincorporated business enterprises.

The data in Table II.4 suggest that one behavioral response that might have contributed to the growth of tax payments by the top group was an "unlocking" of capital gains in response to the lowering of the top rate on capital gains from 28 percent to 20 percent. This possibility is explored further in Chapter IV.

As shown in Table II.3, changes in the ratio of AGI to EAGI, taxable income to AGI, and taxes paid to taxable income were much less important determinants of the shifts in the distribution of taxes paid. These changes are detailed in Appendix D.

CHANGES IN MEASURES OF THE DISTRIBUTION OF THE TAX BURDEN

The changes in the distribution of pretax income and taxes paid between 1980 and 1983 affected overall measures of the progressivity of the tax system. This section examines changes in standard measures of progressivity to determine whether the individual income tax system became more or less equalizing over this period.

If all changes in the pretax distribution of income between 1980 and 1983 were caused by changes in taxes, then the best measure of whether or not the tax changes were equalizing is the change in the distribution of after-tax income. This is because those experiencing a higher proportional growth in after-tax income are the ones made relatively better off by the tax change. [3] If, however, the distribution of pretax income changed for reasons other than tax changes, then the change in the after-tax distribution of income could be a very poor measure of the distributional effect of the tax change because it would reflect changes unrelated to tax policy. For this reason, the paper presents data on two separate measures of changes in the distribution of the tax burden--the change in the distribution of after-tax income by income group and the change in the distribution of taxes paid by income group.

Table II.5 shows the distribution of taxes paid, before-tax EAGI, and after-tax EAGI among the five income groups between 1980 and 1983. The table shows, as noted above, that the share of taxes paid by the top percentile increased from 19.1 percent in 1980 to 20.6 percent in 1983, the share paid by the bottom half of returns increased slightly from 6.9 percent to 7.0 percent, and the share paid by all other groups decreased. It also shows that shares

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3.   For example, if the tax change caused a growth in the pretax income of a particular group, the group could be better off even if it paid more taxes.

of both pretax and after-tax EAGI increased for higher-income groups, especially the top 1 percent, and declined for lower-income groups. Thus, even though the top percentile paid a somewhat higher percentage of taxes (as did the bottom half) in 1983 than in 1980, the distribution of after-tax income became less equal over that period.

TABLE II.5.   DISTRIBUTION OF TAXES PAID, BEFORE-TAX EAGI
AND AFTER-TAX EAGI (In percent)

	Total	Expanded Adjusted Gross Income Group				
		Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
Share of Taxes						
1980	100	19.1	17.8	36.3	19.9	6.9
1981	100	17.4	17.4	37.1	20.3	7.7
1982	100	19.2	17.2	36.3	20.1	7.1
1983	100	20.6	17.1	35.6	19.6	7.0
Share of Before-Tax EAGI						
1980	100	9.6	12.8	35.4	25.2	16.9
1981	100	9.9	13.1	35.1	24.8	16.8
1982	100	10.3	12.6	35.3	24.9	16.7
1983	100	10.9	12.8	35.3	24.6	16.2
Share of After-Tax EAGI						
1980	100	7.9	11.9	35.2	26.1	18.7
1981	100	8.7	12.4	34.8	25.6	18.3
1982	100	8.9	11.9	35.1	25.7	18.2
1983	100	9.4	12.2	35.3	25.3	17.6

Table II.6 presents summary measures of the distributional inequality of income and tax payments and of the progressivity of the tax system. The measure used to evaluate the distribution of EAGI and after-tax EAGI is the Gini coefficient. The Gini coefficient measures the degree of income concentration. A higher value of the Gini coefficient indicates that the distribution of EAGI is less equal; the coefficient would equal 0 if all returns had the same EAGI and 1 if all the EAGI were on one tax return. [4] The Gini coefficient is reported in Table II.6 for both pretax and after-tax EAGI. It is lower for after-tax EAGI because the progressive income tax reduces to some degree the inequality of the income distribution.

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4.   For a further explanation of the Gini coefficient, see Appendix E.

TABLE II.6.   SUMMARY MEASURES OF INEQUALITY OF INCOME
              DISTRIBUTION AND TAX PROGRESSIVITY

	1980	1981	1982	1983
Gini Coefficient				
PreTax EAGI a/	0.4940	0.4999	0.5063	0.5156
After-Tax EAGI a/	0.4644	0.4755	0.4813	0.4929
Tax Progressivity				
Suits Index b/	0.2368	0.2026	0.2159	0.2188
PreTax Minus After-Tax Gini Coefficients c/	0.0296	0.0244	0.0250	0.0277

a.   A higher number indicates greater inequality.
b.   See text and footnotes. A smaller number indicates less progressivity.
c.   A smaller number shows less effect of the tax system in reducing inequality.

Table II.6 shows that the Gini coefficient for after-tax EAGI increased from 0.4644 to 0.4929, indicating that the distribution of after-tax income was more unequal in 1983 than in 1980.   One factor causing this change was an increase in the Gini coefficient for pretax EAGI from 0.4940 in 1980 to 0.5156 in 1983. The other was changes in the distribution of tax payments.

Table II.6 also presents two measures of the degree of progressivity of the tax system.   One measure--the Suits index--is an aggregate measure of the relationship between shares of the tax burden and share of pretax income. [5] This index measures the degrees to which taxpayers with a given share of pretax income pay the same share of the tax burden.   The index increases as the tax system becomes more progressive--a value of 0 indicates that taxes paid are proportional to income (no progression in the tax structure), while a value of 1 would result if the taxpayer with the highest income paid all the taxes.   A

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5.   For a discussion of the Suits index, see Daniel B. Suits, "Measurement of Tax Progressivity," *American Economic Review*, vol. 67, no. 4 (September 1977), pp. 747-752.   For a discussion of that measure and alternatives, see Appendix E.

second measure is the difference between the Gini coefficients of pretax and
after-tax EAGI. This is one way to measure the extent to which the tax sys-
tem affects the inequality of the after-tax distribution of income.[6]

Table II.6 shows that, as measured by the Suits index, the tax system was
slightly less progressive in 1983 than in 1980, although tax progressivity increased
between 1981 and 1983, the years in which the biggest portion of the tax reduc-
tions took effect. As measured by the difference between the Gini coefficients
of pretax and after-tax EAGI, progressivity also appears to have declined. The
difference between the two Gini coefficients declined from 0.0296 to 0.0227, in-
dicating a significantly lessened role of taxes in reducing inequality.

The results from these two measures of tax progressivity do not necessari-
ly contradict the observation that the top percentile paid a higher share of taxes
in 1983. First, they are summary measures of progressivity over the entire in-
come distribution. Second, regarding just the difference between pretax and
post-tax Gini coefficients, with lower overall tax rates a graduated tax system
may have a smaller impact on the distribution of income even if a higher
proportion of the taxes collected are paid by the upper-income groups.

CHANGES IN REAL INCOME BETWEEN 1980 AND 1983

The previous sections of this chapter have shown changes in relative tax pay-
ments, relative income shares, and summary distributional measures. In par-
ticular, Tables II.5 and II.6 show that the distribution of after-tax income became
less equal between 1980 and 1983. Even if the income distribution became less
equal, however, it is possible that lower-income groups could have gained in ab-
solute terms if growth rates were higher enough to offset the decline in their
income shares.

Table II.7 shows changes in real EAGI per return between 1980 and 1983
for the five income groups. Real EAGI per return is calculated by dividing
total EAGI in each income group by the number of returns, and then adjust-
ing the income measure for changes in the implicit price deflator for GNP be-
tween the base year and 1983. The results are all expressed in 1983 dollars.

Table II.7 shows that, on average, higher EAGI groups experienced increases
in real EAGI between 1980 and 1983, while lower EAGI groups experienced

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6.   One problem with this measure is that the tax system itself may alter the distribution of
      pretax income. For example, if high tax rates discourage the realization of capital gains by
      high-income taxpayers, then lower capital gains tax rates increase both pretax income and taxes
      paid by upper-income taxpayers. The distributional effect of the tax change is then its effect
      on the distribution of after-tax income, not its effect on the difference between pretax and
      after-tax income.

decreases. Overall, real EAGI per return (in 1983 dollars) increased from $21,596 in 1980 to $21,745 in 1983--a rise of just under 1 percent in three years. Real EAGI per return increased in 1981, declined sharply in 1982, and then recovered slightly in 1983. These year-to-year movements in real income reflect the effects of the 1980 and 1981-1982 recessions. Over the three-year period, real EAGI per return increased for groups in the top quartile of the distribution; for the top percentile it increased from $206,850 in 1980 to $237,105 in 1983--an increase of 15 percent. For income group 5, however, real EAGI per return declined from $8,111 in 1980 to $7,845 in 1983.

TABLE II.7. REAL EXPANDED ADJUSTED GROSS INCOME
            PER RETURN (In 1983 dollars)

| | | Expanded Adjusted Gross Income Group | | | | |
	Total	Group 1 (1%)	Group 2 (2-5%)	Group 3 (6-25%)	Group 4 (26-50%)	Group 5 (51-95%)
Real EAGI Per Return						
1980	21,596	206,850	68,819	38,208	21,767	8,111
1981	22,937	227,956	75,187	40,274	22,768	8,573
1982	21,357	220,713	67,507	37,697	21,248	7,908
1983	21,745	237,105	69,707	38,395	21,362	7,845
Real After-Tax EAGI Income Per Return						
1980	18,367	145,261	54,455	32,349	19,198	7,614
1981	19,648	170,619	60,879	34,173	20,099	8,007
1982	18,335	162,835	54,478	32,212	18,816	7,428
1983	18,899	178,364	57,519	33,324	19,132	7,403

NOTE: Deflated by implicit GNP price deflator.

Because of the tax reductions, real after-tax EAGI per return increased by more than real EAGI per return--an increase of about 3 percent from $18,367 in 1980 to $18,899 in 1983. The largest increase went to the top percentile of returns--an increase of 23 percent from $145,261 in 1980 to $178,364 in 1983. (This increase reflects in part increased realizations of capital gains, which can occur at the discretion of the taxpayer even when income and wealth do not increase, but also reflects increases in accrued gains because of the strong stock market and increases in other components of income.) On the other hand, for the lowest group in the income distribution, real after-tax EAGI per return declined from $7,614 to $7,403--a decline of almost 3 percent.

The extent to which changes in tax policy contributed to the shift in the distribution of income and the declines in real income per return in the lowest

income group cannot be determined from these calculations. Many other economic variables may have affected the growth and distribution of income, including factors that contributed to the 1981-1982 recession. Moreover, a three-year period is not a fair test of whether tax cuts for upper-income groups help the bottom half of the population because many of the most important incentive effects of lower tax rates can be expected to improve productivity and economic growth only over an extended time period. Nonetheless, the data do show that the higher share of taxes paid by the top income group following the enactment of ERTA are also associated with lower real after-tax incomes for the bottom half of the taxpaying population over the 1980-1983 period. What might appear to be a progressive shift in the tax burden is in fact just the reverse.

CONCLUSIONS

This chapter has examined actual changes in taxes paid, income, and components of income for different income groups between 1980 and 1983. This does not lead to conclusive findings about the effects of the tax policy changes in ERTA and TEFRA, but does at least clarify what happened during the period just following their enactment.

Between 1980 and 1983, both the share of taxes paid and the share of after-tax income received increased for taxpayers in the top percentile of the income distribution. The increase in the share of taxes paid by the top income group resulted largely from increases in their pretax income, not reduced use of exemptions and deductions reported on tax returns. Virtually all of the increase in pretax income of the top percentile can be attributed to increases in the realization of capital gains.

The bottom half of the population also paid a higher share of taxes in 1983 than in 1980, while tax shares of groups in the top half, but below the top percentile, declined. As shown in more detail in Chapter III, the growth in the tax share paid by the bottom group reflects a greater decline as a share of income in the value of the zero bracket amount and personal exemptions for the bottom group than for other groups. The distribution of both pretax and after-tax income became less equal between 1980 and 1983, and real after-tax EAGI per return actually declined for returns in the bottom half of the distribution.

The last two chapters of this report subdivide changes in total taxes paid into three components: (1) those due to changes in the tax law applied to fixed income levels, (2) those due to overall growth in incomes, and (3) those due to shifts in the distribution and composition of income. Chapter III examines direct effects of changes in the tax law in some detail. Chapter IV then considers the extent to which induced behavioral effects may have affected the distribution of tax payments.

CHAPTER III

STATIC EFFECTS OF THE TAX CUTS IN ERTA

This chapter presents estimates of the static effects of the tax cuts enacted as part of the Economic Recovery Tax Act of 1981 (ERTA) and modified by the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) on the distribution of individual income tax payments. These effects are measured at a constant 1983 level and distribution of income. Possible changes in the distribution of income in response to the tax cut are discussed in Chapter IV.

To isolate the effects of changes in the tax law alone, the static estimates are based only on tax return data for 1983.[1] The estimates are derived by comparing the actual distribution of the tax burden in 1983 with simulations of the distribution of taxes that would have been paid by the same taxpayers under variants of 1980 law.[2]

A simulated distribution of 1983 tax liabilities was computed using a version of 1980 law in which 1980 bracket boundaries, personal exemptions, and other fixed dollar amounts in the law had been indexed for the average growth in per capita personal income between 1980 and 1983. This was equivalent to indexing the 1980 tax structure for both inflation and real income growth. This indexed version of 1980 law maintained the same average tax burden in 1983 as in 1980, and kept the share of taxes paid by income groups constant at the 1980 distribution. The distribution of tax liabilities under this law was compared to (1) the distribution of tax liabilities that would have existed in 1983 using 1980 tax rates, tax brackets, and the 1980 definition of the tax base, (2) the distribution that would have existed in 1983 using 1983 tax rates and brackets but the 1980 definition of the tax base, and (3) the actual 1983 distribution using 1983 law.

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1. Internal Revenue Service, Statistics of Income Division, *Individual Income Tax Returns 1983* (Washington, D.C.: Internal Revenue Service, November 1985).

2. The base year for this analysis is 1980 because it is the most recent year unaffected by the changes in the 1981 Act. Though passed in 1981, tax changes in ERTA affected 1981 tax liabilities with a 1.25 percent reduction in marginal tax rates, a reduction in the capital gains rate to 20 percent for gains realized after June 9, 1981, and an acceleration of depreciation deductions for investments placed in service after January 1, 1981.

The results of the simulations indicate:

- Because the tax law was not indexed between 1980 and 1983, nominal income growth shifted the distribution of taxes paid to the disadvantage of taxpayers in the lower half of the income distribution. Nominal income growth increased tax liabilities more than proportionally to income because tax bracket boundaries, the zero bracket amount, and personal exemptions all were fixed in nominal terms. [3] This phenomenon, commonly known as bracket creep, by itself substantially increased the share of taxes paid by taxpayers in the bottom half of the income distribution, and significantly reduced the share of taxes paid by taxpayers in the upper 1 percent of the distribution;

- Compared to the distribution of taxes that would have been paid in 1983 if actual 1980 law had remained in place, the rate cuts, while lowering overall taxes, did little to change the distribution of the tax burden;

- The change in the definition of the tax base between 1980 and 1983 slightly reduced the share of taxes paid by taxpayers in the upper 25 percent of the income distribution, except for taxpayers in the highest 1 percent. For these latter taxpayers, as well as for taxpayers in the remaining three-quarters of the income distribution, the changes in the definition of the tax base slightly increased the share of taxes paid;

- Because the rate cuts were roughly proportional and the effects of changes in the definition of the tax base were relatively small and mostly concentrated in the upper quarter of the income distribution, the changes in tax law enacted by ERTA and TEFRA did little to offset the shift in the distribution of tax liabilities resulting from the growth in nominal incomes. Thus, compared to the share of taxes paid under 1980 law, the share of taxes under 1983 law was slightly lower for taxpayers in the upper 25 percent of the income distribution, slightly higher for taxpayers in the next 25 percent, and substantially higher for taxpayers in the bottom half of the income distribution.

The next section explains in more detail the tax changes that were simulated in developing the static estimates. The section after that presents the simulation results.

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3.   As a results of changes enacted by ERTA, beginning in 1985 these dollar amounts were indexed to keep pace with increases in the level of consumer prices. However, with a tax system indexed for inflation, rising real incomes will still cause a more-than-proportional increase in taxes.

INDIVIDUAL INCOME TAX CHANGES IN ERTA AND TEFRA

ERTA and TEFRA significantly changed many of the provisions of the individual income tax code. The provisions described below are a small subset of the total ERTA and TEFRA changes. Other individual income tax provisions of ERTA and TEFRA, however, affected such a small number of returns and by such small amounts that they did not alter significantly the distribution of taxes paid. The changes described here are only those that occurred between 1980 and 1983.

Individual Income Tax Rate Reductions

ERTA reduced tax rates across most taxable income brackets by approximately 23 percent. This reduction was phased in over a three-year period between 1981 and 1984. In 1981 all taxpayers received a 1.25 percent credit against regular tax liability before credits, equivalent to a 5 percent cut in marginal rates for the last three months of the year. In 1982, marginal rates were about 10 percent lower than they would have been under pre-ERTA law. In 1983, they were about 19 percent lower than under pre-ERTA law. ERTA also reduced the highest marginal tax rate from 70 percent to 50 percent, effective for tax year 1982 and after.

Table III.1 shows the percentage reduction in tax rate by taxable income bracket between 1980 and 1983 for joint returns. Not all taxpayers received exactly a 19 percent reduction in their marginal rate. Some of the difference between the actual percentage change and the 19 percent is due to the rounding of rates to the nearest whole percentage. In the higher taxable income brackets, the percentage changes are well above 20 percent because of the drop in the top rate. However, not all taxpayers in the highest brackets received a marginal tax rate reduction as great as shown in Table III.1. Under prior law, a maximum tax on personal service income limited the top statutory rate on certain types of income to 50 percent.[4] (The rules for computing the maximum tax were such that many taxpayers with both personal service and other income faced actual marginal rates on personal service income somewhat higher than 50 percent.)[5] Taxpayers who had paid the maximum tax under pre-ERTA law did not receive reductions quite as large as shown in Table III.1, because a portion of their income was already taxed at marginal rates closer to 50 percent than to the top rate of 70 percent.

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4.   Personal service income included wages, salaries, tips, professional fees, taxable pensions, and a portion of income from corporations or businesses attributable to labor income.

5.   See Emil M. Sunley, Jr., "The Maximum Tax on Earned Income," *National Tax Journal*, vol. 26 (December 1974), pp. 543-552 and Lawrence B. Lindsey, "Is the Maximum Tax on Earned Income Effective?", *National Tax Journal*, vol. 34 (June 1981), pp. 249-256.

TABLE III.1. PERCENT CHANGES IN STATUTORY MARGINAL TAX
RATES; JOINT RETURNS: 1980-1983

Taxable Income Bracket	1980 Marginal Tax Rate	1983 Marginal Tax Rate	Percent Change In Marginal Tax Rate
$ 0 to 3,400	0	0	—
3,400 to 5,500	14	11	-21.4
5,500 to 7,600	16	13	-18.8
7,600 to 11,900	18	15	-16.7
11,900 to 16,000	21	17	-19.0
16,000 to 20,200	24	19	-20.8
20,200 to 24,600	28	23	-17.9
24,600 to 29,900	32	26	-18.8
29,900 to 35,200	37	30	-18.9
35,200 to 45,800	43	35	-18.6
45,800 to 60,000	49	40	-18.4
60,000 to 85,600	54	44	-18.5
85,600 to 109,400	59	48	-18.6
109,400 to 162,400	64	50	-21.9
162,400 to 215,400	68	50	-26.5
215,400 and over	70	50	-28.6

The reduction in tax liability depends on both the reduction in the taxpayer's marginal tax rate and on the reduction in taxes on income taxed in lower brackets. Table III.2 shows the reduction in tax liabilities between 1980 law and 1983 law rates at selected levels of taxable income. Again, 1980 taxes at the highest income levels may have been lower than shown in the table to the extent taxpayers received the benefits of the maximum tax on certain types of income.

Changes in the Tax Base

ERTA and TEFRA changed the tax base as well as the rate structure. Changes in the tax base include the following:

■ ERTA expanded eligibility and deduction limits on Individual Retirement Accounts (IRAs). Under prior law, the IRA deduction was not available to individuals who participated in a qualified employer pension, stock bonus, or other retirement plan. The deduction per employee was limited to 15 percent of annual compensation up to $1,500 (plus $250 for a nonworking spouse). For 1982 and after, ERTA increased the limits to $2,000 per employee (plus $250 for a nonworking spouse) or 100 percent of compensation, and, more important, extended eligibility to participants in employer plans. In 1980, 2.6 million returns claimed $3.4 billion in

IRA deductions. By 1983, 13.6 million returns reported $32.1 billion in IRA deductions.

■ ERTA created a deduction for married couples when both spouses work. The deduction was 5 percent of the qualified earned income, up to $30,000, of the spouse with lower earnings in 1982; and 10 percent of earned income, up to $30,000, for 1983 and subsequent years.

■ ERTA created a lifetime exclusion of up to $1,000 ($2,000 for a joint return) worth of interest on qualified savings certificates ("All Savers Certificates") purchased after September 30, 1981, and before January 1, 1983.

■ In 1982 and 1983, ERTA allowed nonitemizers to deduct 25 percent of the first $100 of charitable contributions. Under pre-ERTA law, charitable contributions were deductible only for those who itemized deductions.

■ TEFRA increased the taxation of unemployment compensation benefits for 1982 and later years. Prior to TEFRA, a taxpayer calculated the maximum amount of unemployment compensation to be included in taxable income by taking half of the excess of a sum of income items over a base amount. TEFRA reduced these base amounts from $25,000 for a joint return ($20,000 for single and head-of-household returns) to $18,000 ($12,000).

TABLE III.2. PERCENT CHANGES IN TAX LIABILITY; SELECTED
         TAXABLE INCOME LEVELS; JOINT RETURNS: 1980-1983

Taxable Income	1980 Law Taxes	1983 Law Taxes	Percent Change in Tax Liability
5,000	228	179	-21.5
10,000	1,067	868	-18.7
15,000	2,060	1,680	-18.4
20,000	3,231	2,611	-19.3
25,000	4,641	3,767	-18.8
30,000	6,247	5,072	-18.8
40,000	10,226	8,313	-18.8
50,000	14,778	12,014	-18.7
75,000	27,778	22,614	-18.6
100,000	41,998	34,190	-18.6
200,000	107,032	84,002	-21.5
500,000	316,724	234,002	-26.1
1,000,000	666,724	484,002	-27.4

STATIC DISTRIBUTIONAL EFFECTS

The following tables present estimates of the static distributional effects of the ERTA and TEFRA tax changes. Estimates of tax liabilities in the tables have been calculated at a constant 1983 level and distribution of income.[6]

Tax liabilities and the percentage change in liabilities are shown in the tables for five income groups: the upper 1 percent, the 2nd through 5th percentile, the 6th through 25th percentile, the 26th through 50th percentile, and the 51st through 95th percentile. Income is defined as expanded adjusted gross income, which is adjusted gross income as reported on individual tax returns plus excluded capital gains and dividends, tax-exempt interest from All-Savers Certificates, deductions for IRA and Keogh contributions, and the deduction for two-earner married couples. Tax liabilities are individual income tax liabilities after tax credits and additional taxes for tax preferences, but excluding the refundable portion of the earned income credit.

Table III.3 compares simulated 1983 tax liabilities under indexed 1980 law with simulated tax liabilities under unindexed 1980 law, simulated liabilities under unindexed 1980 law but with the ERTA changes in the tax rates, and liabilities under 1983 law.

Rows (1) and (2) of the table show simulated tax liabilities in 1983 under indexed 1980 law and simulated tax liabilities in 1983 under unindexed 1980 law. The percentage difference in simulated liabilities, which is a measure of the effect of bracket creep over the three-year period, is shown in row (5). While bracket creep would have caused taxes to rise by an average of 14 percent, tax liabilities would have been only 5 percent higher for taxpayers in the upper 1 percent of the income distribution but close to 30 percent higher for taxpayers in the bottom half of the distribution. Most taxpayers in the highest income group already were in the highest income tax bracket and thus would not have suffered significantly from the effects of bracket creep, although these taxpayers would have had a smaller fraction of their incomes taxed at lower rates. Moreover, because the amount of income that can be deducted for each personal exemption is such a small percent of total income for high-income taxpayers, indexing the personal exemption amount would have done little to reduce tax liabilities for this group. For taxpayers in the bottom half of the income distribution both the indexing of brackets and the indexing of personal exemptions would have reduced tax liabilities substantially.

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6. Tax liabilities were simulated with the CBO individual income tax simulation model using data from the 1983 Individual Income Tax Model File.